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MMS Funds Studies for Hurricane Ivan Impact in the Gulf of Mexico

In September 2004, Hurricane Ivan, a category-4 storm, moved through the U.S. Gulf of Mexico (GOM) with extreme winds and large waves exceeding or matching the 100-year design criteria of the facilities in its path. Of the 4,000 offshore oil and gas facilities and 33,000 miles of pipelines in Federal waters of the GOM, approximately 150 facilities and 10,000 miles of pipelines were in the direct path of Hurricane Ivan. In spite of the 140 miles per hour winds of Hurricane Ivan, there was no loss of life and no significant pollution. However, 31 platforms were seriously damaged, several were destroyed. More than ten percent of Gulf of Mexico production was interrupted for at least four months, in the wake of this hurricane.

The Minerals Management Service has awarded six contracts totaling over \$600,000 for studies of the Impact of Hurricane Ivan on the offshore oil and gas structures of the Gulf of Mexico. These studies will assess the actual wind, wave and current forces that were present in Hurricane Ivan, analyze and assess the consequential damage to structures and pipelines, determine the effectiveness of current design standards and pollution-prevention systems and develop

recommendations for changes to industry standards and MMS regulations, if needed. These studies will help MMS continue to ensure that the safe, clean operation of the offshore industry will be able to withstand even hurricanes like Ivan.

Projects were awarded competitively, and through cooperative agreements with the Texas Engineering Experiment Station in support of the Offshore Technology Research Center.



Shown is the damaged Nabors 141 drilling rig hanging off the side of Murphy's Medusa Spar platform.

These studies will address short- and long-term adjustments in MMS's technical, engineering, and geologic standards and regulations to ensure that offshore oil and gas production remains safe, environmentally friendly, and less susceptible to interruption.

Awards Granted

- Texas A&M University, Offshore Technology Research Center, "Assessment of Drilling and Workover Rig Storm Sea Fastenings on Offshore Floating Platforms During Hurricane Ivan"
- Offshore Risk & Technology Consulting, Inc., "Examination and Review MODU Loss of Stationkeeping Ability During Hurricane Ivan and Assess Mooring Standards and Criteria to Prevent Similar Failures"
- Det Norske Veritas, "Pipeline Damage Assessment from Hurricane Ivan in the Gulf of Mexico"
- Energo Engineering, Inc., "Assessment of Fixed Offshore Platform Performance in Hurricanes Ivan, Andrew and Lili"
- Texas A&M University, Offshore Technology Research Center, "Mudflows and Mudslides During Hurricane Ivan"
- William Lettis & Associates, Inc., "A Pilot Study for Regionally-Consistent Hazard Susceptibility Mapping of Submarine Mudslides"

For more information visit the MMS website

Hurricane Ivan Research

<http://www.mms.gov/tarprojectcategories/HurricaneIvan.htm>

Hurricane Information

<http://www.gomr.mms.gov/homepg/whatsnew/hurricane/index.html>



EnSCO 64 jack-up rig found adrift without jack-up legs.



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